

### Remarks

Claims 1-16 are pending. Claims 1, 2, 4, 9 and 12-15 stand rejected under 35 U.S.C. § 112, second paragraph as being indefinite.

Claims 1-4 stand rejected under 35 U.S.C. § 103(a) as being obvious in view of Boehme et al., U.S. Patent No. 4,207,115 in combination with Ando, U.S. Patent No. 3,669,917.

Claim 5 stands rejected under 35 U.S.C. § 103(a) as being obvious in view of Boehme and Ando in further view of Colson, U.S. Patent No. 6,297,413.

Claims 6-16 stand rejected under 35 U.S.C. § 103(a) as being obvious in view of Boehme, Ando, and Colson in further view of Kuroda, U.S. Patent No. 4,741,773.

Claims 1-5, 9, and 12-15 have been amended to clarify the claims and place the claims in proper format. New claims 16-19 have been added to recite in dependent claims embodiments that had previously been included in claims 13 and 15. No new matter has been added.

As recited in the claims as amended, the present invention is directed generally to compositions intended to be applied to surfaces of freshly poured mortar or concrete mixes before the start of setting in order to prevent the evaporation of water needed for the mortar or concrete to set and harden. The compositions are provided in the form of aqueous emulsions comprising (a) at least one petroleum-derived or synthetic paraffin wax containing saturated aliphatic hydrocarbons, unsaturated aliphatic hydrocarbons or mixtures thereof, wherein the aliphatic hydrocarbons are of general formulae  $C_nH_{2n+2}$  and  $C_nH_{2n}$  for which  $n$  is at least equal to 30 and the melting point of which is between 40°C and 75°C, combined with either (b) at least one linear or cyclic hydrocarbon oil, of aliphatic or naphthenic origin, of general formulae  $C_nH_{2n+2}$  and  $C_nH_{2n}$  for which  $n$  is less than 30, which is a liquid at room temperature or (c) at least one oil formed from at least one ester resulting from the condensation reaction between a

saturated and/or unsaturated fatty acid and a monohydric, dihydric or trihydric alcohol or (d) a combination of (b) and (c).

For at least the reasons set forth below, the claims as amended are patentable over the references cited by the Examiner.

**Rejection of claims 1, 2, 4, 9 and 12-15 Under 35 U.S.C. § 112, second paragraph**

Claims 1, 2, 4, 9 and 12-15 have been amended to clarify the claims and to place the claims in proper format. The claims as amended address the objections raised by the Examiner and adequately define the invention as required by 35 U.S.C. § 112, second paragraph. In view of the amendments to the claims, this rejection is moot.

**Rejection of Claims 1-16 Under 35 U.S.C. § 103**

Claims 1-4 stand rejected under 35 U.S.C. § 103(a) as being obvious in view of Boehme et al., U.S. Patent No. 4,207,115 in combination with Ando, U.S. Patent No. 3,669,917. Claim 5 stands rejected under 35 U.S.C. § 103(a) as being obvious in view of Boehme and Ando in further view of Colson, U.S. Patent No. 6,297,413. Claims 6-16 stand rejected under 35 U.S.C. § 103(a) as being obvious in view of Boehme, Ando, and Colson in further view of Kuroda, U.S. Patent No. 4,741,773.

The applicant respectfully maintains that the Examiner has failed to establish a prima facie case of obviousness in this case. It is well recognized that the chemical arts are generally unpredictable, as recently confirmed by the Federal Circuit in Eisai Co. Ltd. v. Dr. Reddy's Labs., Ltd., 533 F.3d 1353 (Fed. Cir. 2008) (“To the extent that an art is unpredictable, as the chemical arts often are, KSR’s focus on these ‘identified, predictable solutions’ may present a difficult hurdle because potential solutions are less likely to be genuinely predictable.”). One skilled in the art would not have predicted the results achieved by the applicant based on the

information available in the references cited by the Examiner. Accordingly, the combination suggested by the Examiner does not establish that the claimed composition is obvious. See “Examination Guidelines for Determining Obviousness Under 35 U.S.C. § 103 in View of Supreme Court Decision in KSR International v. Teleflex, Inc.”, 72 Fed. Reg. 57,526 (October 10, 2007)(in order to establish obviousness, must show a combination of prior elements according to known methods to yield predictable results).

In the KSR case, the Supreme Court confirmed the application of the factors set forth in Graham v. John Deere Co., 383 U.S. 1 (1966), in determining whether a claimed invention is obvious. Under Graham, one must consider the scope and content of the prior art and the differences between the prior art and the claims at issue to determine if an invention is obvious.

#### Scope and Content of the Prior Art

The primary reference cited by the Examiner is Boehme. Boehme describes a composition used as an internal sealant in concrete to produce a concrete structure having a water impervious surface. Col. 1, lines 5-12. The composition described in Boehme is comprised of a glyceryl fatty acid ester and a paraffin wax. In particular, Boehme describes a composition comprised of stearic acid, hydrogenated tallow and paraffin wax. Col. 2, lines 11-17. The components are mixed and heated to form a blend, which is then formed into a solid, hollow bead. Col. 2, lines 55-58. The beads are then mixed with the concrete. After the concrete has cured, it is heat treated to cause the beads to melt and infuse into capillaries in the concrete. Col. 3, line 13 to col. 4, line 27.

The composition of Boehme is a solid bead that is mixed with the concrete and is internal to the concrete structure. Boehme does not describe the use of a composition to reduce evaporation from the surface of mortar or concrete to prevent evaporation. Moreover, Boehme

does not describe an aqueous emulsion at all, nor does Boehme describe the use of an aliphatic or naphathenic linear or cyclic hydrocarbon oil in the composition.

Ando is not directed to mortar or concrete at all, much less to the curing of mortar or concrete. Ando describes copolyamide fibers containing a paraffin to prevent the fibers from sticking to each other on a bobbin. Col. 1, lines 67-73. There is nothing in Ando that describes or suggests an aqueous emulsion of paraffin wax at all, much less describes or suggests an aqueous emulsion for preventing water from evaporating from the surface of a poured concrete structure. Moreover, the polyamide fibers described in Ando do not contain an aliphatic or naphathenic linear or cyclic hydrocarbon oil.

Colson also is not directed to mortar or concrete at all, much less to curing of mortar or concrete. Rather, Colson is directed to the use of paraffinic oils to reduce foaming in crop protection formulations when they are diluted with water. Col. 1, lines 44-47. Colson does not describe an aqueous emulsion at all, nor does Colson describe compositions also including waxes or fatty acid esters.

Kuroda describes a water repellant composition for imparting water repellency to concrete structures. The composition described in Kuroda comprises a silicone-oil type water repellant in combination with a paraffinic oil. As described by Kuroda, the composition must contain at least 10% by weight silicone oil to ensure adequate water repellency. Col. 3, lines 8-17.

#### Differences Between the Prior Art and the Claims at Issue

In this case, the Examiner has identified individual references, each describing one or more limitations of the claims as amended. However, the references cited by the Examiner cannot be modified in a manner that would result in the claimed composition with a reasonable

or predictable expectation of success. MPEP § 2143.01(III)(“The mere fact that references can be combined or modified does not render the resultant combination obvious unless the results would have been predictable to one skilled in the art.”). Moreover, in some of the combinations suggested by the Examiner, modifying the primary reference cited by the Examiner, Boehme, in the manner required to arrive at the claimed invention would render Boehme unfit for its intended purpose. MPEP § 2143.01(V)(proposed modification cannot render the prior art unfit for its intended purpose).

A fundamental deficiency in Boehme is that Boehme describes a composition that is formed into solid spheres to be mixed with concrete. This allows the spheres to be dispersed throughout the concrete, and allows the spheres to melt upon application of heat to fill voids within the concrete structure. The compositions of the present invention are in the form of aqueous emulsions, which is desirable for spreading on a mortar or concrete surface during curing to retain water within the mortar or concrete. Modifying Boehme to cause the composition to be in the form of an emulsion is not suggested at all by Boehme. Moreover, Boehme does not describe or suggest the use of the use of an aliphatic or naphathenic linear or cyclic hydrocarbon oil at all.

The Examiner has not provided any evidence to support the argument that it would be obvious to one skilled in the art, desiring to produce an improved composition for retention of water in curing mortar or concrete, to modify Boehme by (1) emulsifying the composition in water, or (2) by adding an aliphatic or naphathenic linear or cyclic hydrocarbon oil. Indeed, because Boehme describes mixing the spheres with the concrete prior to pouring the concrete, one skilled in the art would not look to Boehme for an emulsion for spreading on the surface of a poured concrete to retain water within the concrete during curing.

The Examiner's reliance on Ando to modify Boehme does not address any of the deficiencies in Boehme. Ando describes the use of a type of paraffin on copolyamide fibers to prevent the fibers from sticking to each other. This is an entirely different problem than that addressed by the present invention, and there is no reason provided by the Examiner to infer that one skilled in the art of concrete curing would look to the art of polyamide fibers at all. In any event, Ando does not describe aqueous emulsions at all, nor does Ando describe the use of an aliphatic or naphathenic linear or cyclic hydrocarbon oil. Therefore, even if it were appropriate to consider combining Ando with Boehme in an analysis under 35 U.S.C. § 103, which it is not, the combination still does not result in the composition recited in claims 1-4.

Colson describes the use of a paraffin oil to reduce foaming in formulations applied to crops. Like Ando, Colson has nothing to do with the art of concrete or concrete curing, and there is no reason provided by the Examiner to infer that one skilled in the art of concrete curing would look to the art of crop formulations at all. Moreover, there is nothing to suggest that modifying Boehme by adding the paraffinic oil described in Colson would result in a product that could perform the function described by Boehme, that is create solid spheres that could be melted in cured concrete to fill voids. *See* MPEP § 2143.01(VI)(proposed modification cannot change the principle of operation of a reference).

Kuroda describes a water repellant composition for use in concrete comprising a silicone oil and a paraffinic oil. Kuroda states that it is necessary to have at least 10% silicone oil in the composition for the composition to perform its function. There is nothing in Kuroda to suggest that the silicone oil could be removed from the composition, or that the paraffinic oil could be used in combination with any other components in a composition to enhance curing of concrete.

In this case, the Examiner has found individual components of the claimed composition in various references, but there is nothing in the references that would have led one skilled in the art to combine the references with a reasonable expectation that the resulting composition would be successful in providing an improved water retention for curing concrete. Indeed, two of the reference cited by the examiner have nothing to do with the concrete art at all, and are instead directed to synthetic fibers or formulations applied to crops. There is no evidence that one skilled in the art of concrete curing would even look to the art of polyamide fibers or crop protection formulations to solve the problem of excessive evaporation of moisture from curing concrete. The differences between the prior art and the claimed invention are such that the basis for a prima facie obviousness rejection under 35 U.S.C. § 103 is not met.

In view of the amendments to the claims and the foregoing remarks, the pending claims are believed to be allowable over the prior art of record. Accordingly, it is respectfully requested that this application be allowed and a Notice of Allowance issued. If the Examiner believes that a telephone conference with Applicants' attorney would be advantageous to the disposition of this case, and in particular if a terminal disclaimer is required for allowance, the Examiner is cordially requested to telephone the undersigned. If the Examiner has any questions in connection with this paper, or otherwise if it would facilitate the examination of this application, please call the undersigned at the telephone number below.

Because the reasons above are sufficient to traverse the rejection, Applicants have not explored, nor do they now present, other possible reasons for traversing such rejections. Nonetheless, Applicants expressly reserve the right to do so, if appropriate, in response to any future Office Action.

A Petition for a Three Month Extension of Time extending the period for response from August 31, 2008 to December 1, 2008 (the first business day after November 30, 2008) along with the associated fees are filed herewith. No additional fee is believed to be required. In the event the Commissioner of Patents and Trademarks deems additional fees to be due in connection with this application, Applicant's attorney hereby authorizes that such fee be charged to Deposit Account No. 50-3569.

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Respectfully submitted,



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